

Abstract of the Disclosure

The present invention relates to a multi cell thermal processing unit. The thermal processing unit comprises an air tight common chamber containing an atmosphere other than ambient air. A loading cell is linked to the common chamber via a gas tight door for providing to and receiving from the common chamber a workpiece. Further, a preheating cell is linked to the common chamber via a heat insulating door. The preheating cell provides a substantially fixed temperature for activating the workpiece. Thermochemical processing of the workpiece is provided by a first and a second thermochemical processing cell each linked to the common chamber via a heat insulating door. The first thermochemical processing cell provides substantially fixed first thermochemical processing conditions for nitriding the workpiece. The second thermochemical processing cell provides substantially fixed second thermochemical processing conditions for post nitriding treatment of the workpiece. A cooling cell linked to the common chamber provides controlled cooling of the workpiece. The thermal processing unit according to the invention, wherein thermochemical processing cells are operated under substantially constant conditions considerably facilitates control functions for providing predetermined conditions. This allows a substantially more accurate control of the thermochemical processing conditions which is especially advantageous for reproducibly thermochemical processing workpieces using nitriding processes.